

Paul G Constantine

List of Publications by Year in descending order

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51
papers

1,818
citations

361296

20
h-index

345118

36
g-index

53
all docs

53
docs citations

53
times ranked

1182
citing authors

#	ARTICLE	IF	CITATIONS
1	A Lipschitz Matrix for Parameter Reduction in Computational Science. SIAM Journal of Scientific Computing, 2021, 43, A1858-A1880.	1.3	2
2	Inverse regression for ridge recovery: a data-driven approach for parameter reduction in computer experiments. Statistics and Computing, 2020, 30, 237-253.	0.8	17
3	Forward and backward uncertainty quantification with active subspaces: Application to hypersonic flows around a cylinder. Journal of Computational Physics, 2020, 407, 109079.	1.9	12
4	Sensitivity and model reduction of simulated snow processes: Contrasting observational and parameter uncertainty to improve prediction. Advances in Water Resources, 2020, 135, 103473.	1.7	16
5	Gradient-Based Dimension Reduction of Multivariate Vector-Valued Functions. SIAM Journal of Scientific Computing, 2020, 42, A534-A558.	1.3	37
6	Gauss-Christoffel quadrature for inverse regression: applications to computer experiments. Statistics and Computing, 2019, 29, 429-447.	0.8	3
7	Gaussian Quadrature and Polynomial Approximation for One-Dimensional Ridge Functions. SIAM Journal of Scientific Computing, 2019, 41, S106-S128.	1.3	1
8	Enabling aero-engine thermal model calibration using active subspaces. , 2019, , .		1
9	Active Subspaces of Airfoil Shape Parameterizations. AIAA Journal, 2018, 56, 2003-2017.	1.5	38
10	Characterizing Subspaces of Engineering Shapes using Differential Geometry. , 2018, , .		0
11	Turbomachinery Active Subspace Performance Maps. Journal of Turbomachinery, 2018, 140, .	0.9	31
12	A modified SEIR model for the spread of Ebola in Western Africa and metrics for resource allocation. Applied Mathematics and Computation, 2018, 324, 141-155.	1.4	46
13	Data-Driven Polynomial Ridge Approximation Using Variable Projection. SIAM Journal of Scientific Computing, 2018, 40, A1566-A1589.	1.3	29
14	Ridge approximation and dimension reduction for an acoustic scattering model. , 2018, , .		0
15	Developing Design Insight Through Active Subspaces. , 2017, , .		8
16	Global sensitivity metrics from active subspaces. Reliability Engineering and System Safety, 2017, 162, 1-13.	5.1	92
17	Exploring the Sensitivity of Photosynthesis and Stomatal Resistance Parameters in a Land Surface Model. Journal of Hydrometeorology, 2017, 18, 897-915.	0.7	35
18	Time-dependent global sensitivity analysis with active subspaces for a lithium ion battery model. Statistical Analysis and Data Mining, 2017, 10, 243-262.	1.4	28

#	ARTICLE	IF	CITATIONS
19	A near-stationary subspace for ridge approximation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 326, 402-421.	3.4	26
20	Dimension reduction in magnetohydrodynamics power generation models: Dimensional analysis and active subspaces. <i>Statistical Analysis and Data Mining</i> , 2017, 10, 312-325.	1.4	11
21	Turbomachinery Active Subspace Performance Maps. , 2017, , .		2
22	Global spatial sensitivity of runoff to subsurface permeability using the active subspace method. <i>Advances in Water Resources</i> , 2016, 92, 30-42.	1.7	26
23	Symmetry breaking of azimuthal thermoacoustic modes: the UQ perspective. <i>Journal of Fluid Mechanics</i> , 2016, 789, 534-566.	1.4	28
24	Accelerating Markov Chain Monte Carlo with Active Subspaces. <i>SIAM Journal of Scientific Computing</i> , 2016, 38, A2779-A2805.	1.3	44
25	On Active Subspaces in Car Aerodynamics. , 2016, , .		14
26	Reprint of: Active subspaces for sensitivity analysis and dimension reduction of an integrated hydrologic model. <i>Computers and Geosciences</i> , 2016, 90, 78-89.	2.0	16
27	Python Active-subspaces Utility Library. <i>Journal of Open Source Software</i> , 2016, 1, 79.	2.0	12
28	Discovering an active subspace in a singleâ€¢diode solar cell model. <i>Statistical Analysis and Data Mining</i> , 2015, 8, 264-273.	1.4	27
29	Computing active subspaces efficiently with gradient sketching. , 2015, , .		6
30	Exploiting active subspaces to quantify uncertainty in the numerical simulation of the HyShot II scramjet. <i>Journal of Computational Physics</i> , 2015, 302, 1-20.	1.9	109
31	Active subspaces for sensitivity analysis and dimension reduction of an integrated hydrologic model. <i>Computers and Geosciences</i> , 2015, 83, 127-138.	2.0	58
32	Active Subspace Methods in Theory and Practice: Applications to Kriging Surfaces. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, A1500-A1524.	1.3	328
33	Efficient uncertainty propagation for network multiphysics systems. <i>International Journal for Numerical Methods in Engineering</i> , 2014, 99, 183-202.	1.5	17
34	Model Reduction With MapReduce-enabled Tall and Skinny Singular Value Decomposition. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, S166-S191.	1.3	13
35	Active Subspaces for Shape Optimization. , 2014, , .		86
36	Sparse Robust Rational Interpolation for Parameter-dependent Aerospace Models. , 2013, , .		2

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37	STATISTICAL SURROGATE MODELS FOR PREDICTION OF HIGH-CONSEQUENCE CLIMATE CHANGE. , 2013, 3, 341-355.		2
38	A Posteriori Error Analysis of Parameterized Linear Systems Using Spectral Methods. SIAM Journal on Matrix Analysis and Applications, 2012, 33, 195-209.	0.7	23
39	Residual Minimizing Model Interpolation for Parameterized Nonlinear Dynamical Systems. SIAM Journal of Scientific Computing, 2012, 34, A2118-A2144.	1.3	16
40	A Lanczos method for approximating composite functions. Applied Mathematics and Computation, 2012, 218, 11751-11762.	1.4	6
41	Distinguishing signal from noise in an SVD of simulation data. , 2012, , .		1
42	Sparse pseudospectral approximation method. Computer Methods in Applied Mechanics and Engineering, 2012, 229-232, 1-12.	3.4	142
43	A Surrogate Accelerated Bayesian Inverse Analysis of the HyShot II Flight Data. , 2011, , .		10
44	Conditional sampling and experiment design for quantifying manufacturing error of transonic airfoil. , 2011, , .		14
45	A Factorization of the Spectral Galerkin System for Parameterized Matrix Equations: Derivation and Applications. SIAM Journal of Scientific Computing, 2011, 33, 2995-3009.	1.3	6
46	Tall and skinny QR factorizations in MapReduce architectures. , 2011, , .		30
47	Spectral Methods for Parameterized Matrix Equations. SIAM Journal on Matrix Analysis and Applications, 2010, 31, 2681-2699.	0.7	22
48	Random Alpha PageRank. Internet Mathematics, 2009, 6, 189-236.	0.7	23
49	A hybrid collocation/Galerkin scheme for convective heat transfer problems with stochastic boundary conditions. International Journal for Numerical Methods in Engineering, 2009, 80, 868-880.	1.5	19
50	Evaluation of Non-Intrusive Approaches for Wiener-Askey Generalized Polynomial Chaos. , 2008, , .		100
51	Using Polynomial Chaos to Compute the Influence of Multiple Random Surfers in the PageRank Model. , 2007, , 82-95.		12